

**Abstract of Thesis**  
**Analysis of Cockpit Management System in Multiple Carrier Environments**  
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THE EFFECTS OF PERCEIVED EFFICACY, PERCEIVED COHESION, AND  
SELECTED NON-COGNITIVE INDIVIDUAL DIFFERENCES ON AVIATION  
CREWS' PERFORMANCE IN A DYNAMIC FLIGHT SIMULATOR TASK

Jeffrey M. Beaubien

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Director: Dr. Jose M. Cortina

Perceptions of group cohesion and efficacy have been found to be strong predictors of subsequent group processes and performance across a wide range of work-related groups. However, little research has assessed the generalizability of these findings to time-limited crews that are composed of highly-trained experts. Moreover, the potential antecedents (e.g., personality characteristics, self-efficacy, teamwork KSAs), and moderators (e.g., task-related stress) of perceived cohesion and efficacy have remained largely unexplored. To address these issues, this project developed and tested a theoretical model of the antecedents, outcomes, and moderators of perceived cohesion and efficacy using a sample of commercial airline pilots. Retrospective questionnaires were linked with standardized performance evaluations that were collected during a full-motion simulated flight. The results suggest that pilots who were high in conscientiousness, self-efficacy, and teamwork KSAs also tended to perceive their crews as being high in cohesion and efficacy. Perceived crew cohesion and efficacy, in turn, influenced subsequent crew processes and performance in a fully mediated fashion, although the effects were not always positive. Finally, the effects of perceived crew cohesion and efficacy do not appear to be moderated by task-related stressors. Implications and directions for future research are discussed.